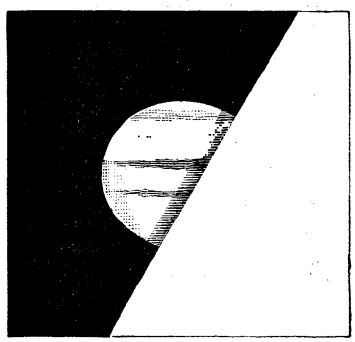
1889MNRAS..50...42J

$8^h\ 1^m\ 21^s{\cdot}57$ G.M.T. As the planet appeared to emerge from behind the Moon the two equatorial belts were notably hard, dark, and sharp, and one towards *Jupiter's* south pole was also conspicuous. The most remarkable feature visible, though, I have endeavoured to depict in the accompanying sketch. It was a strongly marked shading, following the outline of the Moon's limb; and it gave a perfectly stereoscopic effect to the Moon and planet, the former being apparently much nearer to the eye. The detail on the planet's surface seemed generally to improve from its proximity to the Moon's limb, and presented that sharpness often incident on the passage of a light cloud or haze over the planet. *Jupiter* looked, generally, somewhat darker than the Moon, but this seemed rather an effect of colouring



than of obscuration. The shadow, of which the sketch gives a very fair idea, was, though, as I have previously said, by far the most remarkable feature observable. I employed a power of 135 (of course with a positive eye-piece) on the position micrometer of my 4·2 inch equatorial. The latitude of my Observatory is 51° 0′ 59″·8 north, and its longitude 17·11 seconds east of Greenwich.

The Late Occultation of Jupiter. By the Rev. S. J. Johnson, M.A.

The sky was everything that could be desired here on the evening of August 7 for the occultation of *Jupiter*. A higher power than 50 on $3\frac{1}{4}$-inch was not advisable. Contrary to what I had expected, the relative brightness of the planet seemed slightly fainter than that of the Moon on eye estimation. As the dark limb of the Moon was invisible, the impression produced on the eye of the observer, in an irresistible manner, was that of a rapid eclipse of a miniature Sun or Moon. At $7^h\ 0^m\ 24^s$ (time by sextant) there appeared an indentation on the circle of *Jupiter*. This was probably three or four seconds late. At $7^h\ 1^m\ 58^s$ the whole was submerged behind the dark limb of the Moon. First impression of the reappearance of *Jupiter* at $7^h\ 52^m\ 34^s$. Planet entirely clear of the Moon $7^h\ 54^m\ 20^s$. The Sun had set less than twenty minutes. The striking spectacle of all was the pale white-yellow colour of *Jupiter* close to the

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1889MNRAS..50...42J

bright golden disc of the Moon, when the planet was half out, and, in addition to this, the distinctness of the principal belts.

[The planet was not discernible in a good opera glass previous to immersion, but on the occasion of the last occultation in broad daylight, May 24, 1860, at $4\frac{1}{2}^h$, the disappearance could be seen without difficulty by means of an old ship glass, power 16, sheltered from the Sun's rays.]

Vicarage, Melplash, Dorset:
August 9.

Orbit of Comet III. of 1888. By Lieut.-Gen. J. F. Tennant, R.E., F.R.S.

This comet was discovered by Mr. Brooks on August 7, when it had already passed its perihelion seven days. The first accurate observation of it I have found is at Carleton College on the following day, but it is alone, and therefore I have not used it in my work, as it promised to complicate the deduction of the normal places. The comet was extensively observed till September 12, after which date the observations are fewer, and after October 10 I have only observations at Paris on two days, which I owe to the courtesy of Admiral Mouchez, Director of the Observatory, who sent me all the observations there in MS. I am also indebted to Mr. Plummer, of Orwell Park Observatory, for MS. observations, since published in the *Monthly Notices*.

I have examined all observations I could find in the *Astronomische Nachrichten*, Gould's *Journal*, *Monthly Notices*, *Comptes Rendus*, *Bulletin Astronomique*, and *Sidereal Messenger*. I have generally omitted to use all which depended on *Durchmusterung* stars; those of October 24 at Paris, however, are an exception, for I was unwilling to trust entirely to the observation of October 27 for a last normal place, though it would have agreed better with my final orbit than that I actually deduced.*

From the observations at Strassburg on August 10, at Kiel on September 1, and Dresden on September 23, I deduced a parabolic orbit.

$$T = \text{July } 31{\cdot}109783 \text{ G.M.T.}$$

$$\log q = 9{\cdot}9551934$$

$\Omega = 101^\circ\ 29'\ 45''{\cdot}0$	Ecliptic and equinox of 1888·0.		$\Omega' = 94^\circ\ 05'\ 42''{\cdot}38$	Equator and equinox of 1888·0.	
$\pi = 160\ 39\ 05{\cdot}1$			$\pi' = 177\ 37\ 07{\cdot}00$		
$i = 74\ 11\ 37{\cdot}5$			$i' = 70\ 57\ 41{\cdot}32$		

By comparing an orbit almost identical † with this with the

* The observations at Padua on August 12, and at Brussels on August 27, seem to be erroneously printed, and have been rejected.

† The difference arose from an error in copying a figure, and was very slight.

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